

# INVERTEC 275S

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## OPERATOR'S MANUAL



ENGLISH





**THANK YOU!** For choosing the QUALITY of the Lincoln Electric products.

- Please check packaging and equipment for damage. Claims for material damaged in shipment must be notified immediately to the dealer.
- For ease of use, please enter your product identification data in the table below. Model Name, Code & Serial Number can be found on the machine rating plate.

Model Name:	
.....	
Code & Serial number:	
.....	.....
Date & Where Purchased:	
.....	.....

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# Technical Specifications

NAME		INDEX		
INVERTEC 275S		K14242-1		
INPUT				
INVERTEC 275S	Input Voltage $U_1$		EMC Class	
	400V +/- 15% 3 phases		A	
	$I_{1eff}$		$I_{1max}$	
	9.8A		15,3A	
INVERTEC 275S	Input Power at Rated Cycle	Input Amperes $I_{1max}$	PF (400V)	
	7,1 kVA (@100%)	10,1A	0,79	
	9,1 kVA (@60%)	12,9A	0,85	
	11 kVA (@25%)	15,3A	0,89	
RATED OUTPUT				
GTAW	Duty Cycle 40°C (based on a 10 min. period)		Output Current $I_2$	
	100%		200A	
	60%		230A	
	40%		270A	
SMAW	100%		180A	
	60%		230A	
	25%		270A	
OUTPUT RANGE				
GTAW	Welding Current Range		Peak Open Circuit Voltage $U_0$	
	5 - 270A		70V	
SMAW	5 - 270A			
RECOMMENDED INPUT CABLE AND FUSE SIZES				
	Fuse Type gR or Circuit Breaker Type Z	Power Lead		
INVERTEC 275S	16A, 400V AC	4 Conductors, 1,5mm <sup>2</sup>		
DIMENSIONS AND WEIGHT				
INVERTEC 275S	Weight	Height	Width	Length
	14,1Kg	360 mm	230 mm	498 mm
INVERTEC 275S	Protection Rating		Maximum Gas Pressure	
	IP23		0,5 MPa (5 bar)	
	Operating Temperature		Storage Temperature	
	from -10°C to +40°C		from -25°C to +55°C	

# ECO design information

The equipment has been designed in order to be compliant with the Directive 2009/125/EC and the Regulation 2019/1784/EU.

Efficiency and idle power consumption:

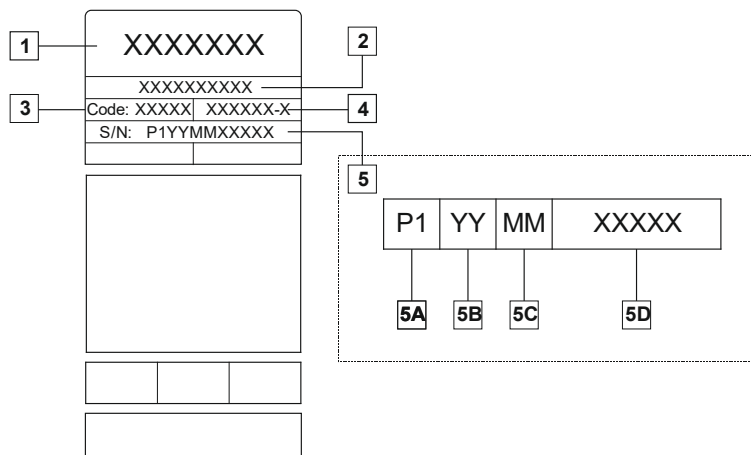
Index	Name	Efficiency when max power consumption / Idle power consumption	Equivalent model
K14242-1	INVERTEC 275S	85% / 19W	No equivalent model

Idle state occurs under the condition specified in below table

IDLE STATE	
Condition	Presence
MIG mode	
TIG mode	X
STICK mode	
After 30 minutes of non-working	X
Fan off	X

The value of efficiency and consumption in idle state have been measured by method and conditions defined in the product standard EN 60974-1:20XX.

Manufacturer's name, product name, code number, product number, serial number and date of production can be read from rating plate.



Where:

- 1- Manufacturer name and address
- 2- Product name
- 3- Code number
- 4- Product number
- 5- Serial number
  - 5A- country of production
  - 5B- year of production
  - 5C- month of production
  - 5D- progressive number different for each machine

Typical gas usage for **MIG/MAG** equipment:

Material type	Wire diameter [mm]	DC electrode positive		Wire Feeding [m/min]	Shielding Gas	Gas flow [l/min]
		Current [A]	Voltage [V]			
Carbon, low alloy steel	0,9 ÷ 1,1	95 ÷ 200	18 ÷ 22	3,5 – 6,5	Ar 75%, CO <sub>2</sub> 25%	12
Aluminium	0,8 ÷ 1,6	90 ÷ 240	18 ÷ 26	5,5 – 9,5	Argon	14 ÷ 19
Austenitic stainless steel	0,8 ÷ 1,6	85 ÷ 300	21 ÷ 28	3 - 7	Ar 98%, O <sub>2</sub> 2% / He 90%, Ar 7,5% CO <sub>2</sub> 2,5%	14 ÷ 16
Copper alloy	0,9 ÷ 1,6	175 ÷ 385	23 ÷ 26	6 - 11	Argon	12 ÷ 16
Magnesium	1,6 ÷ 2,4	70 ÷ 335	16 ÷ 26	4 - 15	Argon	24 ÷ 28

**Tig Process:**

In TIG welding process, gas usage depends on cross-sectional area of the nozzle. For commonly used torches:

Helium: 14-24 l/min

Argon: 7-16 l/min

**Notice:** Excessive flow rates causes turbulence in the gas stream which may aspirate atmospheric contamination into the welding pool.

**Notice:** A cross wind or draft moving can disrupt the shielding gas coverage, in the interest of saving of protective gas use screen to block air flow.



**End of life**

At end of life of product, it has to be disposal for recycling in accordance with Directive 2012/19/EU (WEEE), information about the dismantling of product and Critical Raw Material (CRM) present in the product, can be found at <https://www.lincolnelectric.com/en-gb/support/Pages/operator-manuals-eu.aspx>

# Electromagnetic Compatibility (EMC)

01/11

This machine has been designed in accordance with all relevant directives and standards. However, it may still generate electromagnetic disturbances that can affect other systems like telecommunications (telephone, radio, and television) or other safety systems. These disturbances can cause safety problems in the affected systems. Read and understand this section to eliminate or reduce the amount of electromagnetic disturbance generated by this machine.



This machine has been designed to operate in an industrial area. To operate in a domestic area it is necessary to observe particular precautions to eliminate possible electromagnetic disturbances. The operator must install and operate this equipment as described in this manual. If any electromagnetic disturbances are detected the operator must put in place corrective actions to eliminate these disturbances, if necessary with assistance from

Lincoln Electric.

## **WARNING**

Provided that the public low voltage system impedance at the point of common coupling is lower than:

- 64,8mΩ for the **INVERTEC 275S**

This equipment is compliant with IEC 61000-3-11 and IEC 61000-3-12 and can be connected to public low voltage systems. It is the responsibility of the installer or user of the equipment to ensure, by consultation with the distribution network operator if necessary, that the system impedance complies with the impedance restrictions.

Before installing the machine, the operator must check the work area for any devices that may malfunction because of electromagnetic disturbances. Consider the following.

- Input and output cables, control cables, and telephone cables that are in or adjacent to the work area and the machine.
- Radio and/or television transmitters and receivers. Computers or computer controlled equipment.
- Safety and control equipment for industrial processes. Equipment for calibration and measurement.
- Personal medical devices like pacemakers and hearing aids.
- Check the electromagnetic immunity for equipment operating in or near the work area. The operator must be sure that all equipment in the area is compatible. This may require additional protection measures.
- The dimensions of the work area to consider will depend on the construction of the area and other activities that are taking place.

Consider the following guidelines to reduce electromagnetic emissions from the machine.

- Connect the machine to the input supply according to this manual. If disturbances occur it may be necessary to take additional precautions such as filtering the input supply.
- The output cables should be as short as possible and positioned together as close as possible to each other. If possible connect the work piece to ground in order to reduce the electromagnetic emissions. The operator must check that connecting the work piece to ground does not cause problems or unsafe operating conditions for personnel and equipment.
- Shielding of cables in the work area can reduce electromagnetic emissions. This may be necessary for special applications.

## **WARNING**

EMC classification of this product is class A in accordance with electromagnetic compatibility standard EN 60974-10 which means that the product is designed to be used in an industrial environment only.

## **WARNING**






The Class A equipment is not intended for use in residential locations where the electrical power is provided by the public low-voltage supply system. There may be potential difficulties in ensuring electromagnetic compatibility in those locations, due to conducted as well as radiated disturbances.



## WARNING

This equipment have to be used by qualified personnel. Be sure that all installation, operation, maintenance and repair procedures are performed only by qualified person. Read and understand this manual before operating this equipment. Failure to follow the instructions in this manual could cause serious personal injury, loss of life, or equipment damage. Read and understand the following explanations of the warning symbols. Lincoln Electric is not responsible for damages caused by improper installation, improper care or abnormal operation.

	<p><b>WARNING:</b> This symbol indicates that instructions must be followed to avoid serious personal injury, loss of life, or equipment damage. Protect yourself and others from possible serious injury or death.</p>
	<p><b>READ AND UNDERSTAND INSTRUCTIONS:</b> Read and understand this manual before operating this equipment. Arc welding can be hazardous. Failure to follow the instructions in this manual could cause serious personal injury, loss of life, or equipment damage.</p>
	<p><b>ELECTRIC SHOCK CAN KILL:</b> Welding equipment generates high voltages. Do not touch the electrode, work clamp, or connected work pieces when this equipment is turned on. Insulate yourself from the electrode, work clamp, and connected work pieces.</p>
	<p><b>ELECTRICALLY POWERED EQUIPMENT:</b> Turn off the input power using the disconnect switch at the fuse box before working on this equipment. Ground this equipment in accordance with local electrical regulations.</p>
	<p><b>ELECTRICALLY POWERED EQUIPMENT:</b> Regularly inspect the input, electrode, and work clamp cables. If any insulation damage exists replace the cable immediately. Do not place the electrode holder directly on the welding table or any other surface in contact with the work clamp to avoid the risk of accidental arc ignition.</p>
	<p><b>ELECTROMAGNETIC FIELD MAY BE DANGEROUS:</b> Electric current flowing through any conductor creates electromagnetic field (EMF). EMF fields may interfere with some pacemakers, and welders having a pacemaker shall consult their physician before operating this equipment.</p>
	<p><b>CE COMPLIANCE:</b> This equipment complies with the European Community Directives.</p>
 <p style="font-size: small;">Optical radiation emission Category 2 (EN 12195)</p>	<p><b>ARTIFICIAL OPTICAL RADIATION:</b> According with the requirements in 2006/25/EC Directive and EN 12198 Standard, the equipment is a category 2. It makes mandatory the adoption of Personal Protective Equipment (PPE) having filter with a protection degree up to a maximum of 15, as required by EN169 Standard.</p>
	<p><b>FUMES AND GASES CAN BE DANGEROUS:</b> Welding may produce fumes and gases hazardous to health. Avoid breathing these fumes and gases. To avoid these dangers the operator must use enough ventilation or exhaust to keep fumes and gases away from the breathing zone.</p>
	<p><b>ARC RAYS CAN BURN:</b> Use a shield with the proper filter and cover plates to protect your eyes from sparks and the rays of the arc when welding or observing. To protect the skin, use suitable clothing made of durable, fireproof material. Protect other nearby personnel with suitable, non-flammable screening and warn them not to watch the arc nor expose themselves to the arc.</p>

	<p><b>WELDING SPARKS CAN CAUSE FIRE OR EXPLOSION:</b> Remove fire hazards from the welding area and have a fire extinguisher easily accessible. Welding sparks and hot materials from the welding process can easily go through small cracks and openings to adjacent areas. Do not weld on any tanks, drums, containers, or material until the proper steps have been taken to insure that no flammable or toxic vapors will be present. Never use this equipment when flammable gases, vapors or flammable liquids are present.</p>
	<p><b>WELDED MATERIALS CAN BURN:</b> Welding generates a large amount of heat. Hot surfaces and materials in work area can cause serious burns. Use gloves and pliers when touching or moving materials in the work area.</p>
	<p><b>CYLINDER MAY EXPLODE IF DAMAGED:</b> Use only certificate, compressed gas cylinders containing the correct shielding gas for the process used and properly operating regulators designed for the gas and pressure used. Always keep cylinders in an upright position securely chained to a fixed support. Do not move or transport gas cylinders with the protection cap removed. Do not allow the electrode, electrode holder, work clamp or any other electrically live part to touch a gas cylinder. Gas cylinders must be located away from areas where they may be subjected to physical damage or the welding process including sparks and heat sources.</p>
	<p><b>MOVING PARTS ARE DANGEROUS:</b> There are moving mechanical parts in this machine, which can cause serious injury. Keep your hands, body and clothing away from those parts during machine starting, operating and servicing.</p>
	<p><b>SAFETY MARK:</b> This equipment is suitable for supplying power for welding operations carried out in an environment with increased risk of electric shock.</p>

The manufacturer reserves the right to make changes and/or improvements in design without upgrade at the same time the operator's manual.



# Introduction

**INVERTEC 275S** is a SMAW and GTAW power source

Recommended equipment, which can be bought by user, was mentioned in the "Accessories" chapter.

The complete package contains:

- Power source
- USB with operator's manual
- Label Lincoln

# Installation and Operator Instructions

Read this entire section before installation or operating the machine.

## Exploitation conditions

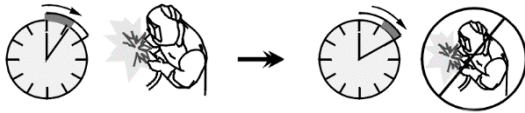
This machine can operate in harsh environments. However, it is important to use the following simple preventive measures that will ensure its long life and reliable operation:

- Do not place or operate this machine on a surface with an incline higher than 15° from horizontal.
- Do not use this machine for pipe thawing.
- This machine must be located where there is free circulation of clean air without restrictions for air movement. Do not cover the machine with paper, cloth or rags when switched on.
- Dirt and dust that can be drawn into the machine should be kept to a minimum.
- This machine has a protection rating of IP23. Keep it dry when possible and do not place it on wet ground or in puddles.
- Locate the machine away from radio controlled machinery. Normal operation may adversely affect the operation of nearby radio controlled machinery, which may result in injury or equipment damage. Read the section on electromagnetic compatibility in this manual.
- Do not operate in areas with an ambient temperature greater than 40°C.

## Duty cycle and Overheating

The duty cycle of a welding machine is the percentage of time in a 10 minute cycle at which the welder can operate the machine at rated welding current.

Example: 60% duty cycle:



Welding for 6 minutes.

Break for 4 minutes.

Excessive extension of the duty cycle will cause the thermal protection circuit to activate.



Minutes

or decrease  
Duty Cycle

## Input Supply Connection

### **WARNING**

Only a qualified electrician can connect the welding machine to the supply network. Installation had to be made in accordance with the appropriate National Electrical Code and local regulations.

Check the input voltage, phase and frequency supplied to this machine before turning it on. Verify the connection of ground wires from the machine to the input source. The welding machine **INVERTEC 275S** must be connected to a correctly installed plug-in socket with an earth pin. Input voltage is 400 Vac 50/60Hz. For more information about input supply refer to the technical specification section of this manual and to the rating plate of the machine.

Make sure that the amount of mains power available from the input supply is adequate for normal operation of the machine. The necessary delayed fuse or circuit breaker and cable sizes are indicated in the technical specification section of this manual.

### **WARNING**

The welding machine can be supplied from a power generator of output power at least 30% larger than input power of the welding machine.

### **WARNING**

When powering the machine from a generator be sure to turn off welder first, before generator is shut down, in order to prevent damage to welder!

## Controls and Operational Features

Front panel INVERTEC 275S



Figure 1

1. Output negative socket for the welding circuit
2. Output positive socket for the welding circuit: Socket where TIG torch must be connected
3. Remote Control Connector Plug For connecting a Remote Control Kit
4. User Interface: See „User Interface” section.
5. USB connector

Back panel INVERTEC 275S



Figure 2

1. Power switch

## User Interface



Figure 3

1. Display: 5” TFT display shows welding processes parameters.
2. Left button: Home & Back
3. Central Knob: Parameter access and validation by pushing knob
4. Right Button: Access to specific parameter of the current selected page.

## Main Menu

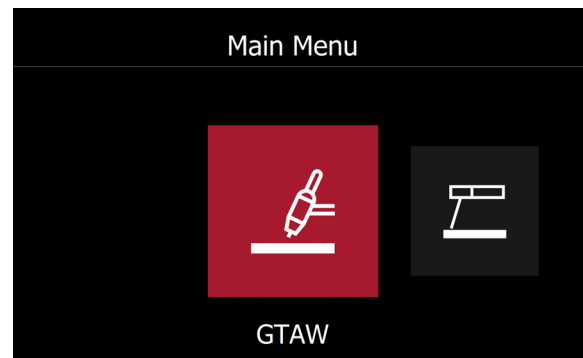
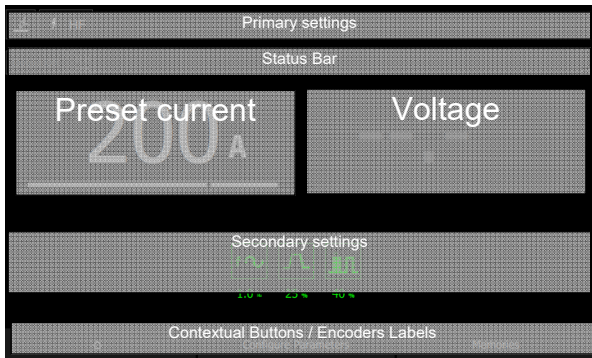


Figure 4

In Main Menu, 3 selections are possible

- GTAW: allow to enter in TIG Home Menu
- SMAW: allow to enter in MMA Home Menu
- Information: Entering in this section allow to the user to configure various parameters of the power source.

## Home Menu description



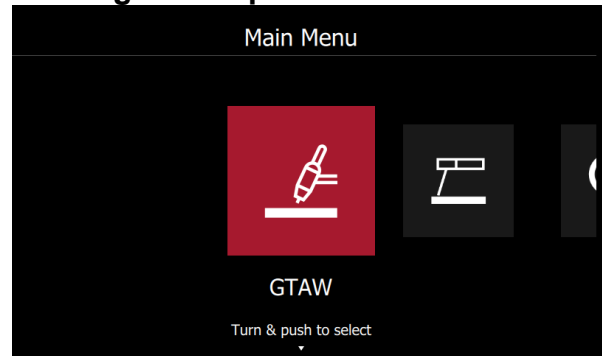
**Figure 5**

1. In "Primary Settings" area, the type of process and corresponding information will be indicated like type of arc striking for TIG and type of MMA mode (Soft, Crisp etc ...)

If "Guided Setup Mode" is selected, all inputs will be displayed in the section.

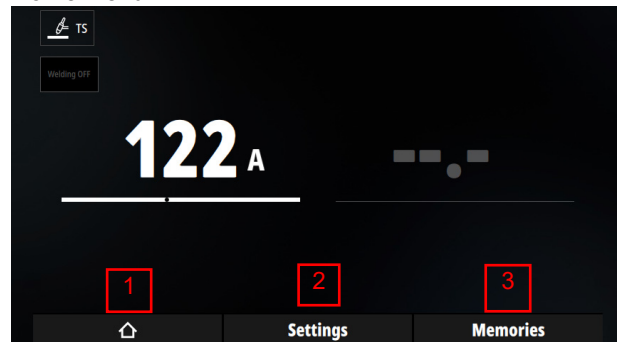
2. "Status Bar" give additional information like Trigger Interlock selection, remote control status.
3. "Preset Current" indicates the current value configured by welder and, during welding, welding current value.
4. "Voltage": Indication of voltage welding voltage.
5. "Secondary Settings" allow to user to see the current values of weld sequence parameters.
6. "Contextual Buttons / Encoders Labels", informs the user of features associated to the knob and buttons

## Welding GTAW process



To select, TIG mode process, select the GTAW icon and push the knob button. Only Touch start

### Home menu



**Figure 6**

1. "Main Menu" access, push this button to go back.
2. Push button to configure all parameters of current process.  
Turn the knob to adjust the welding current value.
3. "Memories" access. See "

## Configure Parameters

### Weld sequence

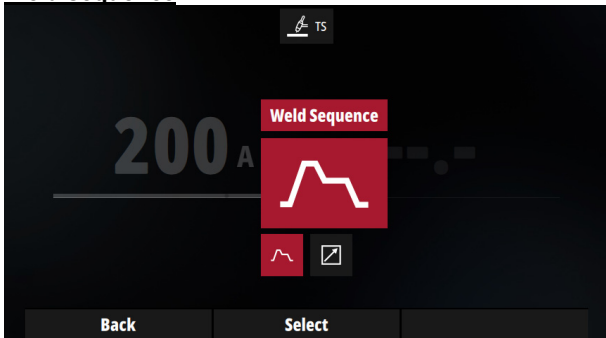


Figure 7

Select "Weld Sequence" menu to configure the following parameters:

- Start current
- Ramp-up time
- Welding current

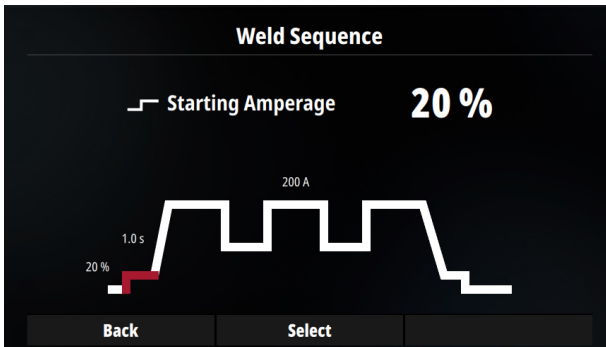


Figure 8

For each parameters, use the knob to reach corresponding part of the weld sequence and push knob button to set value

### Remote control

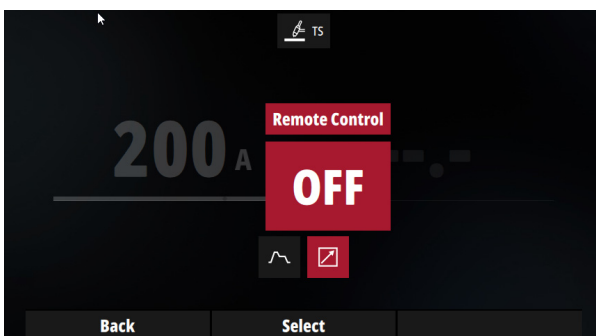


Figure 9

In GTAW mode, 2 accessories can be selected:

- Hand remote control
- Pedal Remote control.

See

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## Welding SMAW process

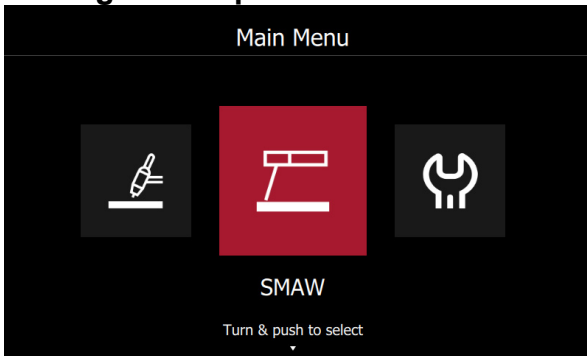


Figure 10

To select, stick mode process, select the SMAW icon and push the knob button.

### Home menu

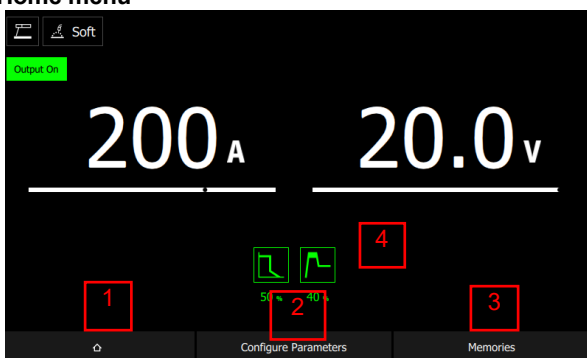


Figure 11

1. "Main Menu" access, push this button to go back to "Main Menu".
2. Push button to configure all parameter of current process.  
Turn the knob to adjust the welding current value.
3. "Memories" access. See dedicated section.
4. "Secondary settings" User can see directly on "Home page" the current parameter values.

### Configure Parameters

#### Stick modes

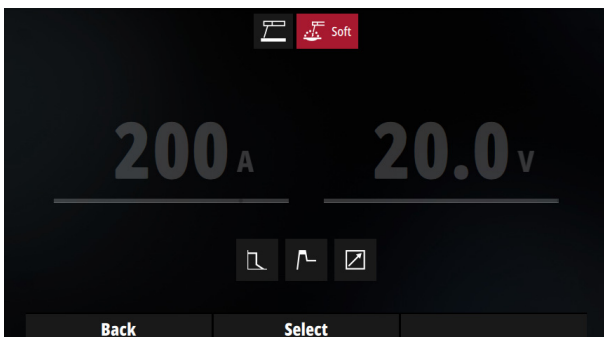


Figure 12

To change the Stick modes, select the corresponding menu and push the Knob button.

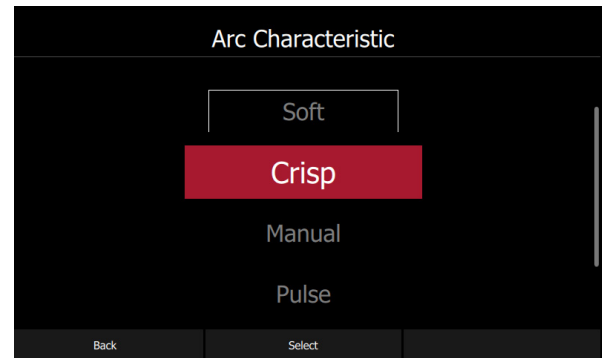


Figure 13

The machine allow the user the use 4 stick mode:

- Soft: For a welding with a low spatter presence. Hot Start and Arc Force are pre-defined and can not be modified
- Crisp: For an aggressive welding, with an increased Arc stability
- Manual: user has full control of Arc Force and Hot start parameters.
- Pulse: user can define the frequency, duty, and welding current.

#### Hot Start

This is a temporary increase in the initial welding current. This helps ignite the arc quickly and reliably.

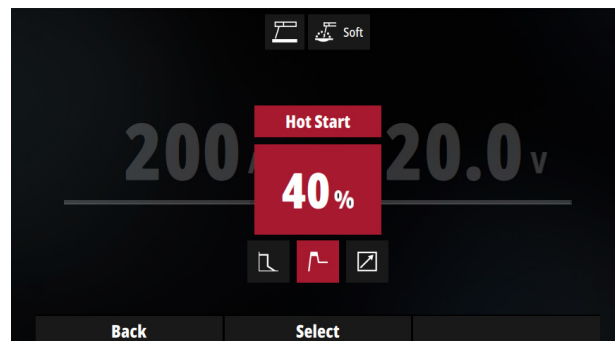


Figure 14

Select the "Hot Start", push the knob button, change the value and push again to validate.

Unit is in percentage. In this example the Initial current will be equal the welding current with 40% of welding current added.

Example: if welding current is 100A, the Hot Start current will be 40%

#### Arc Force

This is a temporary increase in the output current during normal stick welding. This temporary increase in output current is used to clear intermittent connections between the electrode and the weld puddle that occur during normal stick welding.

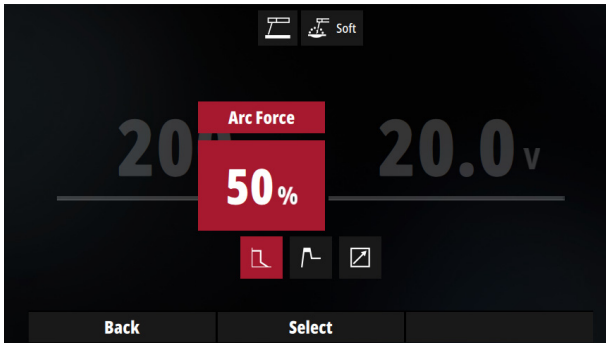


Figure 15

### **Anti-Sticking**

This feature cannot be modified by user.

This is a function that decreases the output current of the machine to a low level when the operator makes an error and sticks the electrode to the work piece. This decrease in current allows the operator to remove the electrode from the electrode holder without creating large sparks that can damage the electrode holder.

### **Remote Control**

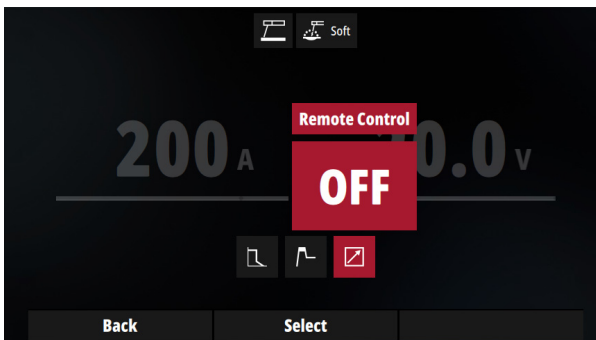


Figure 16

In SMAW mode, 2 accessories can be selected:

- Hand remote control
- Pedal Remote control.

See

“

## Accessories

Accessories can be accessed in GTAW and SMAW by pushing knob button and selecting "Remote Control" icon and push knob again.

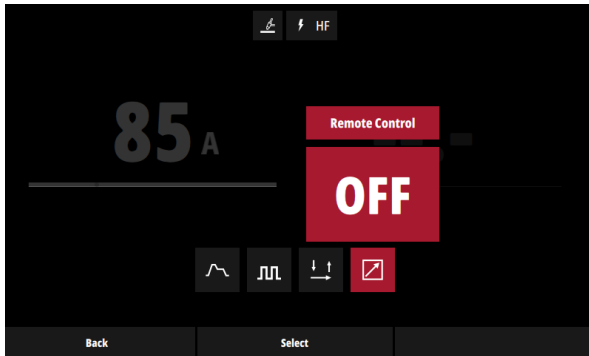


Figure 17

When activated, a new icon appears on the right of "Remote Control" icon named "Remote range".

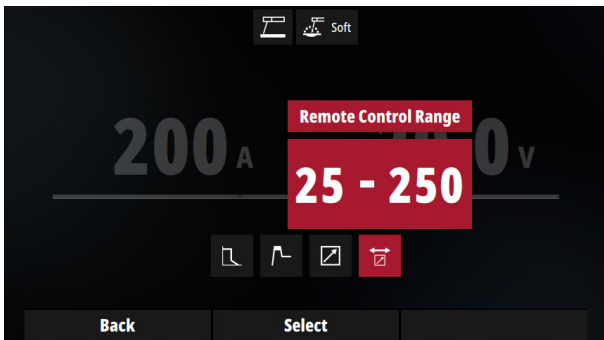


Figure 18

### Hand Remote

Usable for GTAW and SMAW process.

The current displayed correspond to the position of the remote control potentiometer from minimum to maximum current.

Minimum and maximum can be defined in the "Remote Range". In above example, the minimum current is 25A and the maximum is 250A.

### Foot Pedal

Usable in GTAW only.

When selected, the maximum current is the one set on "Home" page by the knob. The minimum current is, like "Hand Remote", the one set on Remote Range section.

As much the pedal is pushed, as much the current will increase.

When Remote Control is activated, an icon is displayed on Home page

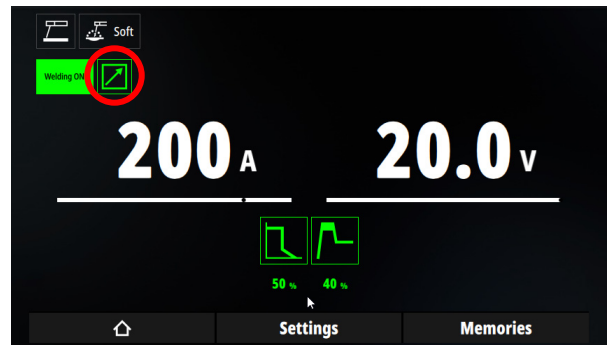


Figure 19

## Memories

Welding process and all parameters which belongs to cycle can be saved in a memory slot in order to be recalled after.

“Memories” menu is accessible for both process TIG and Stick process from “Home menu”.

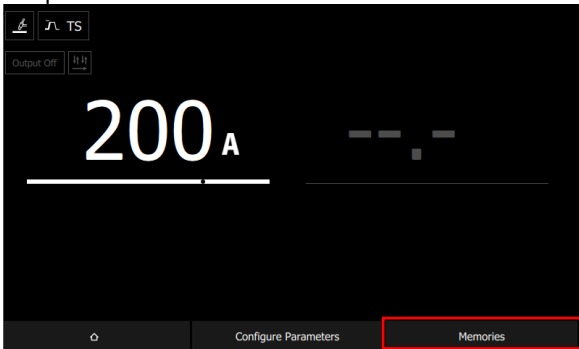


Figure 20

Push the right button to access to memories menu.

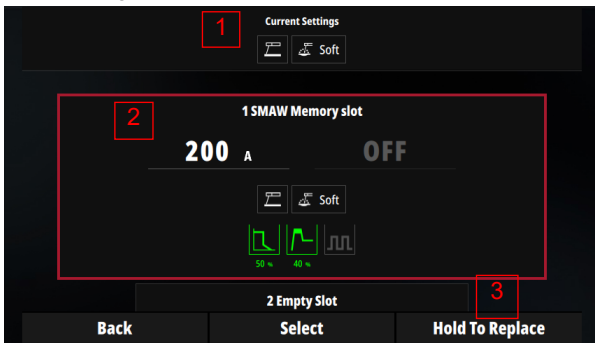


Figure 21

1. On the top of memory page, the current settings which are going to be saved are displayed.
2. With the knob it is possible to scroll up or down to select an empty or used slot memory. If the slot is already used, the parameters associated to the backup are displayed.

Push the knob button to recall the process and corresponding parameters stored in the selected slot.

3. In order to save the current setting in memory, push the right button and keep it hold until the end of saving.

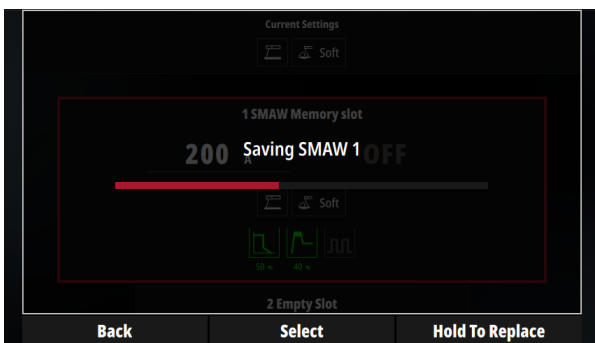


Figure 22

If button is released before the end of saving process, slot will not be erased.

## Guided Setup

Guide Setup is a feature for SMAW which configures automatically the power source according to a set of input data:

- Type of metal sheet.
- Type of electrode.
- Electrode diameter;

Based on this data, the power source will be automatically configured to get the most suitable parameter for the configuration.

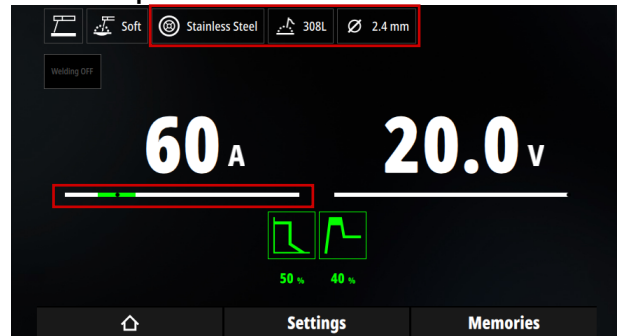
### Guide Setup activation

Guided Setup can be activated in “System Option” then “Weld Mode Setup”.

In “Manual Mode”, assistance is deactivated. A push on knob button will allow to activate it



### Guide Setup use

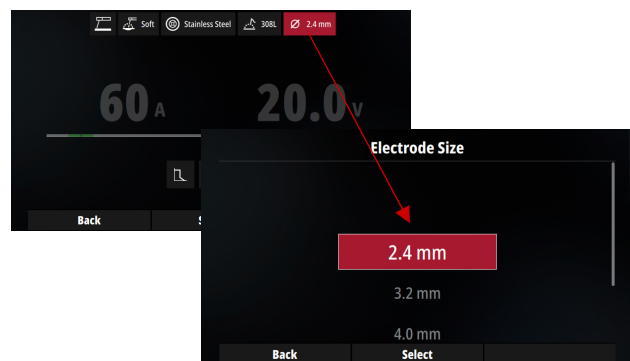


When Guided mode is activated, Home page will be adjusted by:

- Adding list of all inputs data in “Primary Settings” section.
- Preset a defined current value.
- Modifying current range ribbon

### Primary settings:

To change and configure input parameters press the knob button and navigate to parameter desired. Then push knob button to validate.



Once parameters are modified, the output welding current will be automatically adjust to fit with the application.



### Current range ribbon

The machine automatically configures the best current value. It is also possible to adjust the current around this value. As soon as the current remains in proper welding current range for the application,

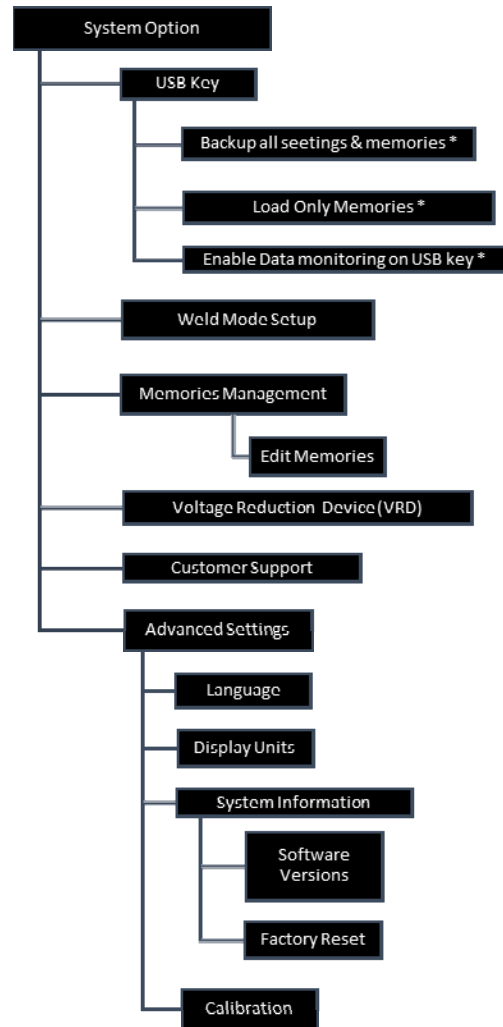
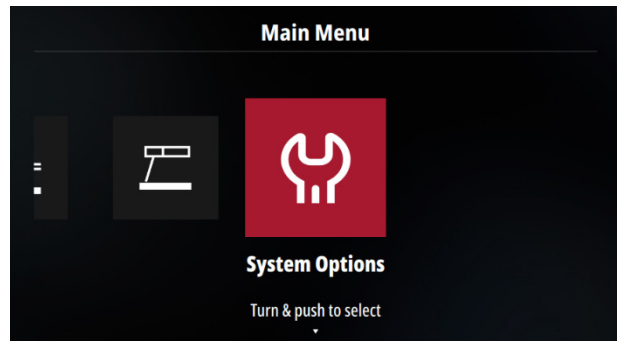


If the current exceeds the proper welding range, the ribbon turned into red indicating to the user the current selection is not the best one.



### System Options

To configure Power Source parameters, select "System Option" icon.



\* Only available when USB key is plugged

### USB Key → Backup all settings & memories

Export from power source to memories previously saved

### USB Key → Load Only Memories

Import from USB key to power source memories previously saved

### USB Key → Enable Data Monitoring on USB key

Activation of Data Monitoring is possible only when USB key is plugged.

A .csv file is created on USB where average voltage, average current, arc time and process selected.

Data monitoring remains active even if USB key is unplugged and data will be stored after plugging again USB key.

### Weld Mode Setup

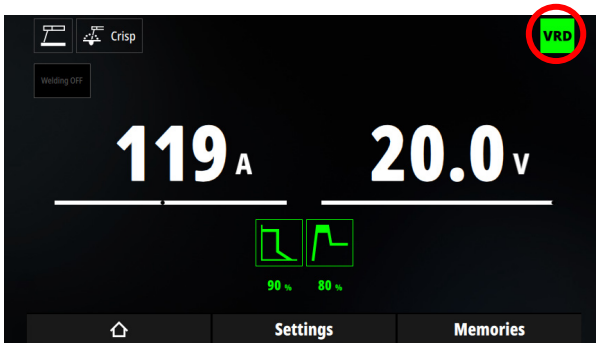
See “Guided Setup” section

### Memories Management

Saved memories can be deleted in this section.

### Voltage Reduction Device

When activated, output voltage no load voltage will be reduced to 11V.



In SMAW page, icon  will appear on top right screen

### Customer Support

In this menu, the user will find all accessories, spare parts and components linked to 275S

### Advanced Settings → System Information.

The software revision is displayed in this section.

Factory Reset allows to reset the power source parameters

### Calibration.



### WARNING

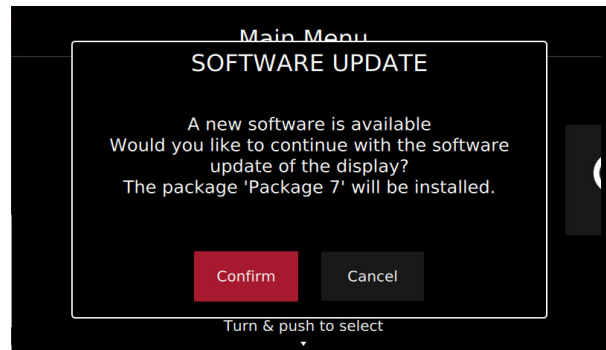
Calibration must be done by an authorized technician with proper equipment: power load, multimeters

This section allows calibration of current and voltage of the power source.

### Software upgrade.

Software will be released during the life time of the power source and bring new features.

In order to upgrade software, insert a USB key formatted in FAT32 with the new software package at the root of the USB key.



A second window will ask you to accept the installation of new software. Push “Confirm” button to start installation workflow.

## Transport and Lifting



### **WARNING**

Falling equipment can cause injury and damage to unit.

During transportation and lifting with a crane, adhere to the following rules:

- The device contains elements adapted for transport.
- For lifting a suitable lifting equipment capacity.

### **WARNING**

In any way the power source cannot be lifted

## Maintenance

### **WARNING**

For any repair operations, modifications or maintenances, it is recommended to contact the nearest Technical Service Center or Lincoln Electric. Repairs and modifications performed by unauthorized service or personnel will cause, that the manufacturer's warranty will be lost.

Any noticeable damage should be reported immediately and repaired.

### **Routine maintenance (everyday)**

- Check condition of insulation and connections of the work leads and insulation of power lead. If any insulation damage exists replace the lead immediately.
- Remove the spatters from the welding gun nozzle. Spatters could interfere with the shielding gas flow to the arc.
- Check the welding gun condition: replace it, if necessary.
- Check condition and operation of the cooling fan. Keep clean its airflow slots.

### **Periodic maintenance (every 200 working hours but at least once a year)**

Perform the routine maintenance and, in addition:

- Keep the machine clean. Using a dry (and low pressure) airflow, remove the dust from the external case and from the cabinet inside.
- If it is required, clean and tighten all weld terminals.

The frequency of the maintenance operations may vary in accordance with the working environment where the machine is placed.

### **WARNING**

Do not touch electrically live parts.

### **WARNING**

Before removed case, machine has to be turned off and the power lead has to be disconnected from mains socket.

### **WARNING**

Mains supply network must be disconnected from the machine before each maintenance and service. After each repair, perform proper tests to ensure safety.

## Customer Assistance Policy

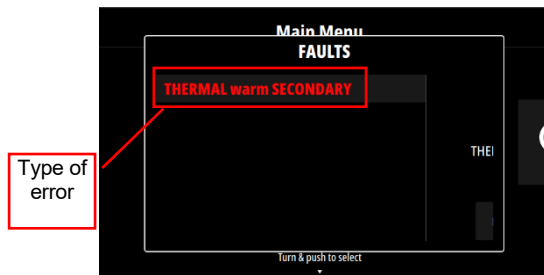
The business of The Lincoln Electric Company is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for advice or information about their use of our products. We respond to our customers based on the best information in our possession at that time. Lincoln Electric is not in a position to warrant or guarantee such advice, and assumes no liability, with respect to such information or advice. We expressly disclaim any warranty of any kind, including any warranty of fitness for any customer's particular purpose, with respect to such information or advice. As a matter of practical consideration, we also cannot assume any responsibility for updating or correcting any such information or advice once it has been given, nor does the provision of information or advice create, expand or alter any warranty with respect to the sale of our products

Lincoln Electric is a responsive manufacturer, but the selection and use of specific products sold by Lincoln Electric is solely within the control of, and remains the sole responsibility of the customer. Many variables beyond the control of Lincoln Electric affect the results obtained in applying these types of fabrication methods and service requirements.

Subject to Change – This information is accurate to the best of our knowledge at the time of printing. Please refer to [www.lincolnelectric.com](http://www.lincolnelectric.com) for any updated information.

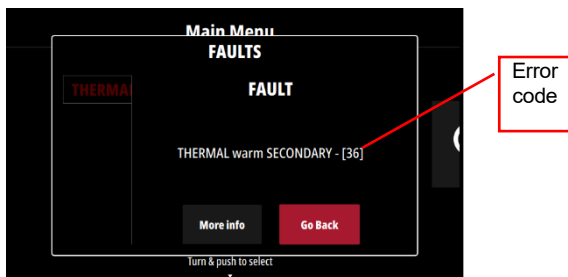
## Error Codes and troubleshooting

When the error occurs and remains, the Error messages is displayed in Red.



By pushing the knob button, the Error code number is displayed.

During error, new welding sequence is blocked until the reason of error remains.



When the error vanished, it is now possible to acknowledge the error by pushing the knob. The background error message becomes white

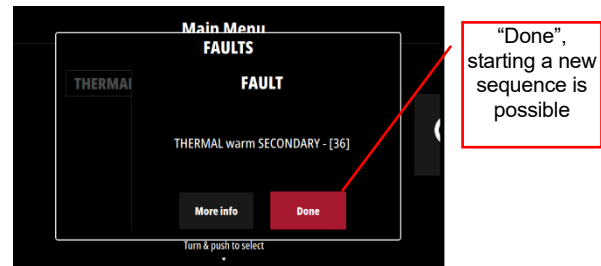


Table 2 shows list of basic errors that can appear. To get full list of error codes, please contact Lincoln Electric service.

Table 1 Error codes

Error code	Symptoms	Cause	Recommended Course of Action
36	The machine has shut down because it has overheated.	System detected a temperature level beyond the normal system operating limit.	<ul style="list-style-type: none"> <li>Be sure process does not exceed duty cycle limit of the machine.</li> <li>Check the setup for proper air flow around and through the system.</li> <li>Check that the system has been properly maintained, including removal of accumulated dust and dirt from the intake and outlet louvers.</li> <li>User interface show information when machine will be cooled down. To continue welding operation Please press left knob or start welding operation by the torch trigger</li> </ul>
37	The machine has shut down because it has overheated.	System detected a temperature level beyond the normal system operating limit.	<ul style="list-style-type: none"> <li>Be sure process does not exceed duty cycle limit of the machine.</li> <li>Check the setup for proper air flow around and through the system.</li> <li>Check that the system has been properly maintained, including removal of accumulated dust and dirt from the intake and outlet louvers.</li> <li>User interface show information when machine will be cooled down. To continue welding operation Please press left knob or start welding operation by the torch trigger Wait a while to allow power source to cool</li> </ul>

### WARNING

If for any reason you do not understand the test procedures or are unable to perform the tests/repairs safely, contact your Local Lincoln Authorized Field Service Facility for technical troubleshooting assistance before you proceed.

## WEEE

07/06



Do not dispose of electrical equipment together with normal waste!

In observance of European Directive 2012/19/EC on Waste Electrical and Electronic Equipment (WEEE) and its implementation in accordance with national law, electrical equipment that has reached the end of its life must be collected separately and returned to an environmentally compatible recycling facility. As the owner of the equipment, you should get information on approved collection systems from our local representative.

By applying this European Directive you will protect the environment and human health!

## Spare Parts

12/05

### Part List reading instructions

- Do not use this part list for a machine if its code number is not listed. Contact the Lincoln Electric Service Department for any code number not listed.
- Use the illustration of assembly page and the table below to determine where the part is located for your particular code machine.
- Use only the parts marked "X" in the column under the heading number called for in the assembly page (# indicate a change in this printing).

First, read the Part List reading instructions above, then refer to the "Spare Part" manual supplied with the machine that contains a picture-descriptive part number cross-reference.

## REACH

11/19

### Communication in accordance with Article 33.1 of Regulation (EC) No 1907/2006 – REACH.

Some parts inside this product contain:

Bisphénol A, BPA,	EC 201-245-8, CAS 80-05-7
Cadmium,	EC 231-152-8, CAS 7440-43-9
Lead,	EC 231-100-4, CAS 7439-92-1
Phenol, 4-nonyl-, branched,	EC 284-325-5, CAS 84852-15-3

in more than 0,1% w/w in homogeneous material. These substances are included in the "Candidate List of Substances of Very High Concern for Authorization" of REACH.

Your particular product may contain one or more of the listed substances.

Instructions for safe use:

- use according to Manufacturer instructions, wash hands after use;
- keep out of reach of children, do not put in mouth,
- dispose in accordance with local regulations.

## Authorized Service Shops Location

09/16

- The purchaser must contact a Lincoln Authorized Service Facility (LASF) about any defect claimed under Lincoln's warranty period.
- Contact your local Lincoln Sales Representative for assistance in locating a LASF or go to [www.lincolnelectric.com/en-gb/Support/Locator](http://www.lincolnelectric.com/en-gb/Support/Locator).

## Electrical Schematic

Refer to the "Spare Part" manual supplied with the machine.

## Accessories

<b>TIG TORCHES AIR</b>	4mt	8mt
WTT2 17 V	W10529-14-4V	
WTT2 26 V		W000278885
<b>MMA CABLE KITS</b>		
Kit 25C25	W000011138	
Kit 25C25+	W000260683	
Kit 25C50	W000260684	
Kit 35C50	W000011139	
Kit 50C50	W000260681	
Kit 50C50+	W000260682	
<b>REMOTES CONTROL</b>		
Manual remote control	K10095-1-15M	
Foot remote control	K870	
<b>OPTIONS</b>		
Cart 24	K14191-1	
Carte 24 interface (to order with Cart 24)	K14384-1	
Cover	K14383-1	
Extension Cord 15m (*)	K14148-1	

Warning: Increasing the length of torch or return cables more than manufacturer maximum specified length will increase the risk of electric shock.

(\*) Only 2 Extension Cord for a maximum total length of 45m can be used